

U.S. Serial No. 10/809,227 **DUPLICATE**
Response to Final Office Action of June 3, 2009

PATENT
450100-05089

IN THE CLAIMS

The claims remaining in this application are as follows:

1. (Currently Amended) An image decoder for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data; the image decoder comprising:

an electric power source having consumable energy for supplying electric power to respective units of the image decoder;

means for determining the remaining energy of said source;

a decoding means for decoding the frames of image data of the encoded motion picture data at an adjustable number of bits per pixel of the decoded motion picture data;

means for measuring the amount of energy that was consumed during a decoding time interval;

means for estimating the amount of energy anticipated to decode and display remaining motion picture data as a function of the measured amount of energy that was consumed;

a displaying means for displaying the frames of the decoded motion picture data; and

a controlling means for controlling the number of bits per pixel of the decoding means on the basis of a difference between said anticipated energy needed for decoding and displaying the motion picture data and the remaining energy of the electric power source to dynamically control the playing quality of the motion picture data by selectively reducing said number of bits per pixel.

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2. (Previously Presented) The image decoder according to claim 1, wherein said means for determining the remaining energy comprises a load monitoring means for monitoring the computational load of the decoding means.

3. (Canceled)

4. (Currently Amended) An image decoding method performed by an image decoder for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data comprising the steps of:

decoding, by use of an image decoder, the frames of image data of the encoded motion picture data to provide an adjustable number of bits per pixel of the decoded motion picture data;

displaying the frames of the decoded motion picture on a display device;

measuring, by a processor, the amount of energy of an electric power source that supplies electric power to respective units of the image decoder that was consumed during a decoding time interval;

estimating, by said processor, the amount of energy anticipated to decode and display remaining motion picture data as a function of the measured amount of energy that was consumed; and

controlling the number of bits per pixel in the decoding step of said image decoder on the basis of a difference between said anticipated energy needed for decoding and displaying the motion picture data and the remaining energy of said electric power source by selectively reducing said number of bits per pixel.

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5. (Previously Presented) The image decoding method according to claim 4, wherein the decoding step further comprises monitoring a computational load when decoding .

6. (Canceled)

7. (Currently Amended) A program embodied in a computer-readable medium for controlling an image decoding process performed by an image decoder for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data by:

decoding the frames of image data of the encoded motion picture data to provide an adjustable number of bits per pixel of the decoded motion picture data;

displaying the frames of the decoded motion picture data;

measuring the amount of energy of an electric power source that supplies electric power to respective units of the image decoder that was consumed during a decoding time interval;

estimating the amount of energy anticipated to decode and display remaining motion picture data as a function of the measured amount of energy that was consumed; and

controlling the number of bits per pixel in the decoding step on the basis of a difference between said anticipated energy needed for decoding and displaying the motion picture data and the remaining energy of said electric power source t by selectively reducing said number of bits per pixel.

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8-14 (Canceled).

15. (Currently Amended) An image decoder for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data; the image decoder comprising:

a decoding means for decoding the frames of image data of the encoded motion picture data at an adjustable number of bits per pixel;

a displaying means for displaying the frames of the decoded motion picture data; and

a controlling means for anticipating the time needed to display a predetermined number of frames on the basis of the number of frames that can be displayed during a unit time and for controlling the decoding means to dynamically ~~control~~ reduce the number of bits per pixel of the decoded image data ~~on the basis of~~ when said anticipated time to display said predetermined number of frames is less than a predetermined threshold.

16-17. (Canceled)

18. (Currently Amended) An image decoding method for decoding encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data, comprising the steps of:

decoding, by use of an image decoder, the frames of image data of the encoded motion picture data at an adjustable number of bits per pixel;

displaying the frames of the decoded motion picture data on a display device;

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anticipating, by a processor, the time needed to display a predetermined number of frames on the basis of the number of frames that can be displayed during a unit time; and
controlling the decoding step of said image decoder to dynamically ~~control~~ reduce the number of bits per pixel of the decoded image data ~~on the basis of~~ when said anticipated time to display said predetermined number of frames is less than a predetermined threshold.

19-20. (Canceled)

21. (Currently Amended) A program embodied in a computer readable medium for controlling an image decoding process to decode encoded motion picture data composed of plural frames of image data and for displaying the decoded motion picture data by:

decoding the frames of image data of the encoded motion picture data at an adjustable number of bits per pixel;

displaying the frames of the decoded motion picture data;

anticipating the time needed to display a predetermined number of frames on the basis of the number of frames that can be displayed during a unit time; and

controlling the decoding step to dynamically ~~control~~ reduce the number of bits per pixel of the decoded image data ~~on the basis of~~ when said anticipated time to display said predetermined number of frames is less than a predetermined threshold.